

## Claims

What is Claimed is:

- 1- The system consists of a primary reflector that reflects radiation in a linear form to the secondary reflector. The secondary reflector converts the linear line or lines to a point or spot. The main reflector consists of a sheet of reflector curved close to parabolic, to focus radiation to in a line form. If the curve of the reflector sheet is a perfect parabolic curve, the line produced is a sharp line. The curvature of the reflector sheet does not have to be perfect parabolic curves. If the curve of the primary sheet is not a perfect parabolic then the lines of various thickness will be produced depending on the roughness and closeness to a parabolic curve. The secondary reflector is curved (bent) in 90 degrees angle from the primary reflector. The reflected radiation lines from the primary reflector is changed by the secondary reflector and focused to a spot (point). A perfect parabolic curved sheet produces sharper lines from the main reflector to secondary. That in return means a sharper point from the secondary reflector and higher radiation energy.
- 2- The system in claim 1, accepts multiple primary reflectors; each of which are focused on a secondary reflector.
- 3- The system in Claim 1 accommodates electronic circuits, sensors and servomotors to align the reflectors to the sun during the day. Or, the inclination of the primary reflector is controlled by supporting rod or by means of a locking mechanism.
- 4- The primary reflector in Claim 1 accommodates inclination adjustability and can be mounted in a fixed position and the secondary reflector is adjustable and movable to obtain the desired maximum radiation. For manual operation, the primary reflector accommodates wheels for ease of movement.
- 5- The length of the secondary reflector is longer than the width of the widest primary reflector. The secondary reflector is even larger, if to accommodate different positions of the sun and multiple numbers of primary reflectors.
- 6- The secondary reflector accommodates inclination adjustability and can be mounted in a fixed location and the primary reflector is adjustable and movable to

## Solar Cooker & Heater

obtain desired focus and radiation. If the secondary reflector optionally has an elongated parabolic shape which will add to the efficiency of the Claim 1 system.

- 7- The secondary reflector is housed in proper heat resisting materials and covered on the other three sides for safety.
- 8- The system in Claim 1 is easy to use and heats from the bottom; like cooking on a grill.
- 9- The secondary reflector accommodates adjusting the amount of radiation by controlling the focal point. A mechanism to squeeze and /or release is used to control and change the focal point.
- 10- The secondary reflector's housing unit accommodates electric coils for cooking when there is no sun.
- 11- The system in Claim 1 is easy to manufacture when compared to parabolic dishes or some other concave options.
- 12- The system in Claim 1 is accommodating and serves as an auxiliary heating system for the solar oven which collects radiation from the top.
- 13- The system in Claim 1 is accommodating and serves as water heater by placing a water tank in place of an oven unit.
- 14- The system in Claim 1 accommodates and serves as heat generator for electric power or power to power storage depot.
- 15- The system in Claim 1 accommodates all in one unit. That is the primary reflector is in the bottom and the secondary reflector is a lens type reflector and located just under the cooking surface.
- 16- The principle of operation of primary reflector in Claim 1 accommodates a large reflector surface more radiation energy for the ovens or energy depot (water tanks) that collects radiation from the top.